



Healthy Fruit, Vol. 25, No. 10, June 6 (D-Day), 2017

Jon Clements, Author (unless otherwise noted) and Editor

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Current degree day accumulations

UMass Cold Spring Orchard, Belchertown, MA	5-June
Base 43 (BE, NEWA)	945
Base 50 (BE, NEWA)	514

Note: this will be the last Current degree day accumulations for 2017

Upcoming pest events*

Coming events	Degree days (Base 43 BE)
American plum borer 1st flight peak	601-967

Cherry fruit fly 1st catch	755-1289
Codling moth 1st flight peak	558-971
Dogwood borer 1st catch	754-1243
European red mite summer egg hatch	737-923
Obliquebanded leafroller 1st catch	795-890
Oriental fruit moth 1st flight subsides	828-1106
Peachtree borer 1st catch	801-1326
San Jose scale 1st flight subsiding	864-1238
Spotted tentiform LM 1st flight subsiding	676-947
White apple LH 1st brood adults present	679-1041

*Adapted from [Scaffolds Fruit Journal](#)

Upcoming meetings

14-June (Wednesday) University of New Hampshire Tree Fruit Twilight Meeting, Kimball Fruit Farm, 184 Hollis Street, Pepperell, MA. 5:30 to 7:30 PM. Sponsored by NH Tree Fruit Growers' Association and UNH Cooperative Extension. PAT Credits are pending. Individuals requiring special accommodations to attend should contact George Hamilton at least one week prior to the meeting. For more information: George Hamilton, George.Hamilton@unh.edu 603-641-6060, [https://extension.unh.edu/events/index.cfm?e=app.tag&tag=Tree Fruit Twilight Meeting&org](https://extension.unh.edu/events/index.cfm?e=app.tag&tag=Tree+Fruit+Twilight+Meeting&org)

15-June (Thursday) UMass Extension Fruit Program Berry Twilight Meeting, 5:00-7:30, Nourse Farms, 41 River Rd., Whately MA. Strawberry & Raspberry Variety Showcase, Blackberry Swing Arm Trellis Demo, High Tunnel Berry Production Update, Spotted Wing Drosophila Management Research and Management Update. 1 Pesticide Credit requested. Cost \$20 payable at the meeting. Light fare and refreshments included. Pre-registration is encouraged by emailing umassfruit@umass.edu in order to provide enough seating and food. For more info go to <http://ag.umass.edu/fruit/upcoming-events>.

11-July, 2017 (Tuesday) Massachusetts Fruit Growers' Association Summer Meeting, Cider Hill Farm, Amesbury, MA. Details TBA.

For more information and updates, see [Upcoming Events](#)

AgRadar

Key insect life cycle and management dates

Note: for 2017, we have four Massachusetts orchard locations subscribed to AR: Amherst, Belchertown, Deerfield, and Easthampton. The website for looking at AgRadar for these locations is: <http://extension.umaine.edu/ipm/ag-radar-apple-sites/>. What follows is the AgRadar summary for the Belchertown location.

Key Apple Scab Dates -- <http://ag-radar.umext.maine.edu/MAModel/MA-Belchertown-ScabDates.htm> Date of 'Final' significant primary scab ascospore release is/was: May 25, Thursday 'Final' defined as best guess of 99+% cumulative ascospore release, and high probability that at least 95% of ascospores have been released. Secondary scab protection and scouting should continue until 2nd generation lesions from the season's final ascospore release have had time to begin appearing. 2nd generation lesions from the FINAL significant primary scab ascospore release have had time to begin appearing by: June 20, Tuesday.

Codling moth CM -- 1st generation, first sustained trap catch biofix date: May 16, Tuesday. Codling moth development as of June 6: 1st generation adult emergence at 40% and 1st generation egg hatch at 0%. In most orchards, insecticide targetted against plum curculio and apple maggot prevent codling moth damage. If targetted codling moth control is needed, key management dates are: 1st generation 3% CM egg hatch: June 10, Saturday, = target date for first spray where MULTIPLE sprays needed to control 1st generation CM; 1st generation 20% CM egg hatch: June 15, Thursday, = target date where ONE spray needed to control 1st generation CM.

Obliquebanded leafroller OBLR -- 1st generation OBLR flight begins around June 9, Friday. Where waiting to sample late instar OBLR larvae is not an option (= where OBLR is known to be a problem, and will be managed with insecticide against young larvae): Early egg hatch and optimum date for initial application of B.t., Delegate, Proclaim, Intrepid, Rimon, Altacor, Belt, pyrethroid or other insecticide effective against OBLR (with follow-up applications as needed): June 23, Friday. Where waiting to sample late instar OBLR larvae to determine need for treatment is an option, or to check on results from earlier sprays: Optimum sample date for late instar summer generation OBLR larvae: July 3, Monday If first OBLR late instar larvae sample is below threshold, date for confirmation follow-up: July 6, Thursday.

Oriental Fruit Moth OFM -- 2nd generation OFM flight begins around: June 28, Wednesday. 2nd generation - first treatment date, if needed: July 6, Thursday. 2nd generation - second treatment date, if needed: July 17, Monday.

Plum curculio (PC) -- Earliest safe date for last PC insecticide spray: June 6, Tuesday.

Redbanded Leafroller RBLR -- 2nd RBLR flight begins around June 28, Wednesday. Peak catch and approximate start of egg hatch: July 12.

San Jose Scale (SJS) -- 1st generation SJS crawlers appear: June 17, Saturday.

Spotted Tentiform Leafminer STLM -- 2nd STLM flight begins around: June 15, Thursday. Rough guess of when 2nd generation sap-feeding mines begin showing: July 5, Wednesday. Optimum first sample date for 2nd generation STLM sapfeeding mines is July 12, Wednesday.

The way I see it

Jon Clements

I was out in the upper-midwest last week experiencing 4 straight days of wall-to-wall sunshine and temperatures near 90 degrees. And then I come back to this. Everything is on-hold, I have not really got a chance to look around. Mixed reviews on the **apple thinning** situation, but it is too late to do much now, except for perhaps a rescue treatment? ([F-129R Late-season "Rescue" Thinning with Ethephon.](#)) Watch the upcoming heat though, that will take some fruit off (aka June drop) next week. Primary **apple scab** should be over (for most of you), however, I know darn well everyone is maintaining some fungicide coverage through this wet period. Start looking earnestly for scab lesions until you pull the plug. We're awaiting a barrage of **plum curculio** as soon as this weekend, but presumably, good insecticide coverage will get us through that and it will be the end of that.

Insects

Are you kidding, it's too cold for any insects! But watch out for **plum curculio** when it warms up later this week!

Diseases

Dan Cooley

Apple Scab. Location, location, location. Whether a Massachusetts orchard has made it past primary scab season or not depends to some extent on where it is. In the Connecticut River Valley, the present heavy rain (June 5 – 6) is not a significant PRIMARY infection period – there are no ascospores left. In eastern MA, this wet weather is a moderate infection period, releasing the last ascospores of the season, while southeast MA is all done. In the colder hills of western MA, this is a major infection period, with a lot of ascospores being released. The RIMpro estimates match our lab observations nicely.

Looking around the region, Rhode Island and Connecticut have finished with primary scab. Maine is not quite, this being the last primary infection period for most of the apple areas in the state. The situation is similar in southern New Hampshire and Vermont.

The last of the ascospores does not mean scab is done. If one of the half-dozen infection periods that have hit this year established a few infections, and those are active, then secondary scab will be a problem. Before easing off on scab

management check for infections. As long as the weather has been cool, it may take up to a couple of weeks for infections that start this week to show up.

But there's a warming trend forecast for next week. That should speed up the process. It also may be a good time to scout for little fuzzy spots. If there are any scab infections, 80 F to 90 F degree weather plus an eradicant fungicide work well to stop it.

Sooty blotch and Flyspeck – SBFS. All the dry weather the last couple of years kept SBFS in check, with or without much in the way of fungicides. That may shift this year with a return to more normal rain patterns.

There are a few rules to managing SBFS in New England.

1. If you control FS then you also will also control SB because FS is the tougher disease to manage.
2. FS inoculum comes from wild plants surrounding the orchard, and FS fungi have to grow for some time before they produce spores and infect wild plants. When this process gets cranked up, spores are blown into the orchard and can land on fruit.
3. Once on fruit, it will take even more time for the fungi to develop into visible colonies.
4. All this means there's a period after petal fall when SBFS management isn't needed. BUT, before blotches and specks start to show on apples, a fungicide should be applied. How long this "grace period" lasts depends on how wet it is. Specifically, the number of leaf wetness hours following petal fall.
5. An appropriate fungicide such as Flint, Sovran, or Topsin, plus a half-rate of captan, will both protect and stop fungal development on fruit. Captan alone works but is not as effective at stopping the developing infections. Pristine is also very effective, but it's recommended that it be saved for the last spray before harvest.
6. After the first SBFS spray, later SBFS applications should be made according to how much rain has fallen, or how much time has elapsed. Intervals depend on which fungicides are used.

The most appropriate [DSS's](#) for SBFS in our region are NEWA and [AgRadar](#), though they have a few issues. [RIMpro](#) is based on fungi that cause the disease in Europe, and is not appropriate for New England. NEWA and AgRadar give an estimate of when the first spray for SBFS is needed, and then estimate when follow-ups should be made.

For example, NEWA for Belchertown says that SBFS sprays should start at or around June 7. AgRadar for Belchertown is a little less clear, but recommends a first SBFS spray June 24. I won't get into the reasons for the difference now, and we have yet to do trials to see which is better. Maybe next year!

Horticulture

Jon Clements and Duane Greene

Fruit measurements, 5th and 7th (for Honeycrisp) June, 2017, UMass Orchard, Belchertown
(note that 5 spurs by 5 trees per variety were measured; therefore, on those 25 spurs measured, potential 100% fruit set is 125 fruits assuming 5 flowers per spur; a reminder that the final target % fruit set should be around 10%). Results:

apple variety	no. fruits (current % fruit set)	largest (mm)	smallest (mm)	mean (mm)
FUJI	90 (72)	23.5	7.5	12.8
GALA	65 (52)	19.6	7.3	13.1
HONEYCRISP	NA yet	--	--	--

Using the [predicting fruit set spreadsheet](#), the results after this second measurement are:

FUJI predicted number of fruit setting per tree = 132 (26% set)

GALA predicted number of fruit setting per tree = 120 (24% set)

HONEYCRISP predicted number of fruit setting per tree = NA yet

The desired crop load on these trees was decided to be 50 fruit/10% set (but there could probably be more, like 60 fruit). The decision was made to apply 6-BA at 100 ppm plus carbaryl at one pint on 28-May (except on Honeycrisp). It appears that was a good decision, as the Fuji and Gala appear to be thinning down quite nicely. No further chemical thinner applications will be made.

Chemical Thinning Remains a Possibility (Duane Greene)

For nearly the whole thinning season the weather has been cool and damp/wet. Fruit have not been stressed and that is necessary prerequisite for effective thinning. Fruit in many locations are approaching 20 mm in diameter and this is the fruit size where we generally find it difficult to thin with traditional thinners. However, since the fruit has not been stressed during the traditional thinning window of opportunity this year you may be able to thin this year at larger fruit sizes.

The weather patterns appears to be changing such that warm verging on hot temperatures are forecast starting on the weekend. Follow this very carefully! If you plan to thin plan to apply thinner before the warm temperatures arrive (Thursday or Friday). Recommendations:

1. In general, we do not recommend thinning with NAA at relatively high rates, when fruit is large and when hot weather is expected after NAA application. Retire NAA for the season for thinning.
2. You have available carbaryl that can be used at larger fruit sizes. If blocks need additional thinning carbaryl is your safest choice. You may wish to add summer oil to improve carbaryl distribution and penetration. Caution is given if you have recently used Captan because of the possibility to phytotoxicity.
3. While we do not generally recommend MaxCel at these large fruit sizes, it may work at higher rates and combined with carbaryl. If you combine carbaryl with MaxCel in the same tank you do not need to add oil. MaxCel contains an excellent mix of surfactants.
4. Your "Hail Mary" option is to use Ethrel at rates up to 300 ppm (1 pint/100 gal.). Sometimes it works, sometimes it does not and sometimes it over-thins. Some cultivars are more sensitive to Ethrel than others, e.g. Golden Delicious. Generally, we suggest including carbaryl in the tank when using Ethrel.

We still do not know what if any effect thinners applied earlier will have on final set. Much of this will be determined by just how hot it gets and how many days it remains hot. If we have 2-3 days in the upper 80's to near 90, that by itself, will cause some thinning. This next 7 day period may be the last opportunity thin chemically this season. If all fruit in a spur are similar in size then, probably the earlier thinners did not work, and you should be quite aggressive in your selection of thinning options to follow.

Guest article

No Guest article this week...

Facebook Me

Follow me (jmcextman) on FB: <https://www.facebook.com/jmcextman>

 **Christian Smith**
June 2 at 8:00pm · East Bridgewater

More fruit than tree !



 Like  Comment

 Christian Smith ✓ Seen by 46

View 3 more comments

 **Christian Smith** The tree will retire
Like · Reply · June 2 at 8:06pm

 **Franklyn Carlson** I thought we were the only ones with this problem. Sevin, NAA, and we think we see some letting go today. Maybe they will all come off??
Like · Reply · June 2 at 8:27pm

 James Mussoni replied · 2 Replies

 Write a comment...   

Useful links

[New England Tree Fruit Management Guide](#)

UMass Fruit Advisor: <http://umassfruit.com>

Scaffolds Fruit Journal: <http://www.nysaes.cornell.edu/ent/scaffolds/>

Network for Environment and Weather Applications (NEWA): <http://newa.cornell.edu>

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[David Rosenberger's Blog](#)

[Peter Jentsch's Blog](#)

[Healthy Fruit archive](#)

The next Healthy Fruit will be published on Tuesday, June 13 or thereabouts, 2017. As always feel free to get in touch with any member of the UMass Fruit Team (<http://extension.umass.edu/fruitadvisor/team-members>) if you have questions or comments.